5

ADDRESS

TO THE

MUNICIPAL AUTHORITIES,

Fire Department,

INSURANCE COMPANIES, MERCHANTS,

PROPERTY HOLDERS,

AND THE INSURED OF THE CITY OF PHILADELPHIA,

AGAINST LOSS BY FIRE,

AND LOSS OF LIFE AND PROPERTY BY THE HANDS OF THE BURGLAR.

PHILADELPHIA:
SICKELS & READING, PRINTERS, No. 102 CHESTNUT ST.
1854.

Digitized by the Internet Archive
in 2018 with funding from
This project is made possible by a grant from the Institute of Museum and Library Services as administered by the Pennsylvania Department of Education through the Office of Commonwealth Libraries

https://archive.org/details/addresstomunicip00purd

ADDRESS.

GENTLEMEN :—

The amount of property which is annually destroyed by fire in the City of Philadelphia, is beginning to awaken serious consideration in the minds of its citizens. The authorities and the members of the Fire Department have for years labored with commendable zeal in their efforts to prevent the growth of the evil, and the firemen have performed miracles in the way of saving property from destruction, when we consider the amount of loss sustained by Philadelphia in comparison with that of any of the other large cities. But a more efficient means is necessary to be employed to lessen the amount of annual loss and to give greater security. Now that the limits of the City of Philadelphia have been largely extended, the amount of responsibility has, in proportion, increased, and to the reflecting mind the conviction is forced, that a more extended means of communicating alarm to the firemen is actually necessary.

In view, therefore, of the manifold defects of our present system, the rapid increase of our noble city calls loudly upon the new city government for prompt and decided action. The present system of alarms was no doubt sufficient for Philadelphia, about the year 1810, but the great Philadelphia of this day, is no village, or even a large town, but a magnificent city, covering an area twenty-two by seven miles, and inhabited by a population of half a million of industrious and enterprising citizens; it therefore must be obvious to any one, that a radical change is necessary. The days of messages by man, horse, or even by steam, have gone by, in consequence of the employment of the most wonderful of all the agents of nature, *Electricity.* Under the control of man, this most powerful agent, in the form of the electric telegraph, can even convey messages of intelligence almost in advance of time.

The Fire Alarm Telegraph has been in operation for nearly three years in the city of Boston. It gives *instantaneous*, *universal* and *definite* alarm in case of fire. This object, which has been hardly proposed by any other system, is fully accomplished by the Alarm Telegraph. The subscribers, citizens of Philadelphia, therefore, present the details of a similar plan to your notice and for your examination; as well, also, do they desire to claim the attention of all insurers, of property holders, and the whole fire department.

The Mayor of Boston, in his inaugural address, says of the system: "Boston may safely challenge the world to produce a parallel to the Fire Telegraph. It is a triumph made subservient to man, by giving him timely warning to defend himself against the destructive agency of fire."

The Fire Alarm Telegraph consists essentially of two parts:

First, *the Signal apparatus and wires*, by which the intelligence of a fire is communicated from any part of a city to the Central Station.

Second, *the Alarm apparatus and wires*, by which the alarm bells in different parts of a city are struck from the Central Station by the touch of a single finger, without the intervention of hands, watchmen or bell-ringers at the belfries or bell-towers.

For example, there are in the city of Philadelphia one hundred and fifty Signal Stations, or "Signal Boxes," distributed over the city, from any one of which the intelligence of a fire in the neighborhood can be communicated instantly to the Central Station by the simple turning of a crank. The operator at the Central Station—the sole watchman of the system—is then able, by simply depressing a key with his finger, to strike the District number simultaneously on a given number of large bells in every quarter of the city, and not only this, but also to repeat back in a distinct and audible manner on all the Box Signals, the number of the Box in the District from which the alarm proceeded. The firemen are thus not only directed to the District, but actually to the *very box originating the alarm.* The time between the first discovery of a fire by the inmates of a dwelling and its definite announcement from all the steeples or bell-towers, is thus, on an average, not more than three minutes and the time might be reduced to a single minute.

The best example of a system of a District Alarm, in which the bells are rung by hand, is probably that in the City of New York. There the eight bell-towers are provided with watchmen, and are connected with telegraph wires, so that when one watchman discovers a fire he can notify all the others. There are thus only *eight* stations in the City of New York from which an alarm can originate, whereas the plan we propose for Philadelphia, provides *one hundred and fifty* Signal Boxes, from any one of which the alarm is communicated instantly.

The alarm system in New York requires sixteen watchmen constantly on the alert, who must each ring his bell according to the District number. The Fire Alarm Telegraph requires only two operators at the Central Station, who, at any hour of the day or night, can strike any number of bells by the touch of a single finger. Moreover, in New York, after the alarm is actually given, the firemen are only directed to a *district*, which may be a mile or two square, and in which they may run about for half an hour without finding the fire. The Fire Alarm Telegraph, on the other hand, directs the firemen to the District by the bells, and to the Signal Box in the District from which the alarm came, by the repeating number, which is heard from time to time in *all* the Signal Boxes in the city. The fire apparatus, therefore, may always be headed from the start to within at least *two hundred and fifty* yards of the fire.

By way of illustration we give a more detailed description of the Fire Alarm Telegraph, and of the safeguards by which its permanence, and the regularity and certainty of its operations are insured:

The wires are carried from the main Station, which contains also the great battery, a new and improved sustaining battery, the invention of M. G. Farmer, of Boston. From thence, like those of the ordinary telegraph wire, they are fastened on tall posts or houses, by means of iron brackets, and insulated by stone-ware supports of the most approved form. There are always duplicate wires, following different routes, between every two Stations, so that if one is broken from any cause, the second remains good until the first can be repaired. The ground is not used as any part of the circuit, so that the falling of a wire produces no false connection, and double insulation also results. These precautions are found to preserve the circuits practically intact. The wires properly erected in a city are very rarely interrupted from any cause, and the probability against the interruption of the two corresponding wires between neighboring stations at the same time, amounts almost to an impossibility. But besides this, the Central Station is furnished with testing apparatus, by which the integrity of each circuit is constantly ascertained.

For convenience and security, the Signal Boxes and the Alarm Bells are not connected respectively in one great Signal Circuit and one great Alarm Circuit, but the number of circuits of each class is multiplied, all of them radiating from the Central Station, like the petals of a flower. Thus a signal Circuit may traverse the north part of a city and be connected with eight or ten Signal Boxes, another the south part, &c. An alarm circuit may also extend north, or in any direction, and embrace one, two, or five bell towers, as the case may be, and so on. The operation of these circuits are all, however, connected with the Central Station, so that any Signal Box can communicate its intelligence to the Centre, and all the bells on the various circuits can be struck at once, if desired, from the Centre.

The system is called into operation, in case of fire, by applying to the nearest "*Signal Box*," of which there is one *within, say two hundred and fifty yards of every house in the city.* The Signal Box itself is a solid, cast iron, cottage-shaped box, attached to the side of a house, opposite a gas lamp, and communicating by wires, enclosed in a wrought iron pipe, with the Signal Circuit overhead. The box is locked, but a sign tells where the key may be found, or a police officer or watchman can furnish a key. On opening the door, a *crank* is seen within. On turning this, the number, not only of the District, but of the box itself, is instantly communicated to the Central Station, and the longer the crank is turned the more repetitions of the same signals are given. These signals are received and recorded at the Central Station by a Register, at the same time that a call or office alarm bell is struck to give notice to the operator. We may suppose that the fire is signalized from Station or Box *five*, in District *three*. The operator at the Centre, on seeing the record, turns immediately to the "*District Keyboard*," and presses down a key marked 3. The mechanism of the Keyboard starts at once, and, by telegraphic communication, causes the alarm bells in the bell towers to strike the District number *three*, and to continue to do so as long as the Key is held down. This is accomplished by machinery in the bell towers, liberated at each blow by a telegraphic impulse, communicated at suitable intervals by the arrangement of the Keyboard. But suppose the operator only wants to ring a part of the alarm bells. By a "*switch*," he disconnects one or more of the Alarm Circuits from the District Keyboard, and the corresponding bells are silent. But, while the operator is holding down the key of District *three*, and the telegrapic mechanism is doing all the rest of the work on the bells, he turns to one or more finger keys which communicate back with the Signal Boxes, and presses occasionally *five* times; a little magnet and armature in each Signal Box gives a sharp click for every motion made by him, and the firemen, who run to the nearest box and listen, know that the alarm comes from District three, Station *five*, and their familiarity with the District and Station map, tells them exactly where it is and the nearest route to it.

The advantages of the Fire Alarm Telegraph may be recapitulated as follows:

1. It furnishes an indefinite number of Signal Stations, scattered broadcast over the city, from which an alarm may be communicated. No time is lost, therefore, between the fire itself and the telegraph.

2. The operator at the Centre receives the intelligence immediately, and forthwith strikes the District number on one or all the Alarm Bells by telegraphic agency.

3. The number of the *Station* from which the alarm proceeded, as well as the *District*, is telegraphed to the Fire Department, so that the engines are headed from the first to almost the exact locality of the fire.

4. The arrangement of the system protects it from interruption, either by accident or design, and it works with equal certainty and promptitude in sunshine or storm, by day or by night.

5. Its decided advantage over the present system, and the cost which would provide for its establishment, would be but a small sum, when compared with the large amounts of property lost, and valuables destroyed, by the influence of the present system.

6. It provides a thorough system of organization, by which the whole Fire Department of the city is brought into communication with a single Centre, receiving directions from this Centre, either by the Bells or Signal Boxes, and communicating back to it by a finger key, which, in addition to the crank, is placed in every Signal Box.

7. It requires but ONE BATTERY at the Central Station, and only *two* operators; one for day and one for night duty.

8. It will decrease the amount which is annually paid by insurers, and lessen to a considerable extent the amount of their liabilities.

9. That it cannot be equalled by any other agent than electricity in point of speed.

10. That it will prevent, almost entirely, false alarms.

11. That it has decided superiority over all other systems now in use.

12. That it will prove of great value as a means of saving life.

As a fitting termination, we append a letter from J. Sleeper, Esq., of East Boston, who was Chairman of the Committee on Fire Alarms:

Boston, March 20, 1854.

Sir:—

You ask my opinion as to the working of the system of "Telegraphic Fire Alarms in this City." While connected with the City government, during the years 1852 '53, I was Chairman of the Committee on Fire Alarms, and had an opportunity to become acquainted with the practical working of the system, and I have no hesitation in expressing my belief that it answers in every particular the high expectations that were entertained respecting it in the outset. By this system an alarm of fire can be instantly sent to the Central Office, and from thence, at the same moment, a general alarm may be given by the simultaneous striking of all the bells connected by wires with the Central Office. The City being divided into several districts, and the number of the district from which the alarm comes being indicated by the number of blows upon the bells, no time is lost by the Fire Department in finding out in what direction to proceed. All acquainted with the management of fires well understand the importance of having the Department early at the point of danger. Since the introduction of this system among us, the number of false alarms has greatly lessened. A great saving of expense to the City, as well as of annoyance to the Fire Department, results from this cause alone. The intelligent Superintendent of Fire Alarms, Mr. Farmer, has, from time to time, made such improvements as necessity and experience suggested, and I believe everything now works well, and I am persuaded that no consideration would induce the citizens of Boston to part with so important an instrumentality for the prevention of destructive conflagrations and their attendant calamities.

Very respectfully, your obedient servant,

JACOB SLEEPER,
Chairman Committee of Fire Alarms, 1852-'3.

Rev. Andrew Rankin.

City Hall, Boston, March 21, 1854.

To whom it may concern:

The undersigned fully concurs in the foregoing statement by Mr. Sleeper, late Alderman, who is very familiar with Dr. Channing's important invention.

J. V. C. Smith, Mayor.

THE POLICE TELEGRAPH.

We live in an age of rapid progress; we are in the van of the onward movement, and improvement is the order of the day. Now that our great City is extended over a vast area of territory, its Police force is necessarily considerably augmented; and, in order to afford every facility for the successful management of such an important branch of our public institutions, it will be necessary to extend its sphere of usefulness and give still greater scope to its magisterial powers.

The present method of conveying intelligence to the Police Stations during cases of emergency, is sadly deficient, and the want of better means is actually a pressing necessity. To meet this demand, the subscribers propose to use the House Printing Telegraph, and to attach to the Fire Alarm an additional set of wires, which shall extend to the different Police Stations. Then, in case of a riot, information could instantly be sent to all Police Stations, and men could be had in the shortest space of time, ready to nip the riot in the bud.

This superior form of telegraphic instrument can be operated on by an intelligent police officer. The messages sent require no translation, and are not, therefore, so liable to mistake in construing or copying. Its great utility will at once strike even those uninitiated in the mysteries of the electric telegraph. Its rate of speed is two hundred letters in a minute of time, being much faster than even an expert penman can write.

By its agency, the Mayor and the Marshal of Police could have a full and complete report of the condition of our whole city, night or day, so that, argus-like, their eyes would be every where, controlling and suppressing popular outbreaks, and guarding the lives and property of the citizens.

The Printing Telegraph works effectively through long circuits, and an operator is able by it to select, and print in order, the letters of the common alphabet, with more rapidity than the hieroglyphic marks of any of the ordinary forms of recording telegraphs.

By this system, one manipulation or pressure of the key is sufficient to produce a plain letter, instead of a mere sign of a letter. The peculiarity of House's system is, that the developments are at once graphically intelligible, without writing or translation.

Its ordinary alphabet and language is the English—at the same time it is more adapted than any other to a conventional cipher, unknown to all but the initiated.

As the instrument throws off at the first and only operation *printed English* communications, any person who can read English may be an operator.

The House instruments cost more in the first place than the apparatus for dotting and signalizing, but the expense, trouble and errors of translating and copying messages are avoided; and besides, the dotting machine makes, when in motion to receive or transmit a message, a certain kind of sound which can very readily be learned by persons who are not connected with the office: hence a decidedly objectionable feature is raised, and its inability to preserve secrecy is out of the question. It is not so with a House Instrument. It cannot be read by sound. No one but the operator who receives, can read the communication as it comes from the instrument, unless he specially invites other persons to witness the operation. House's Telegraph addresses itself to the sight alone. Its sounds, therefore, are unintelligible. Again, it will work almost as well in damp and rainy weather as it will on a clear day—a very important matter to all who send messages by it, as it is well known that many of the forms of telegraph now in use are perfectly useless in damp and stormy weather. It also works without the use of a local battery or branch circuit, which are absolutely necessary for other systems of telegraph. One large battery is sufficient to work the whole number. The following is a brief explanation of the principles upon which the action of the instrument depends, which will be easily understood:

The different letters are signalized from one station to another by pressing down one of a row of twenty-six keys, which are arranged in a similar manner to the keys of a common piano forte, and which correspond with the letters of the alphabet. As you stand before the key-board, there will be seen two additional keys, to the left, which, when pressed down by the operator, alternately serve to separate words and form a period at the close of each sentence. Through the agency of a crank, a small wheel is made to revolve, which is regulated by a small axial magnet; it carries on its circumference the letters of the alphabet, which appear on the surface like the ordinary type. As the wheel revolves, it carries with it a strip of white paper; a thin band, which is saturated with ink, also passes along with it. That constitutes the printing press. When an operator at the other end wishes to communicate intelligence, he gives you a call, and at the same time sets his instrument in motion. The receiving operator sets his instrument in motion also, and immediately catches the type-wheel and waits untill it comes around to the blank, then releases it. Everything is now in readiness, and the writer makes a few blanks before he begins. Every time he makes a blank, the type-wheel makes a whole revolution. Suppose, therefore, he desires to make the letter "F," which is the sixth letter of the alphabet, he places his finger down on the sixth key of his key-board, and the type-wheel passes from the blank to the sixth letter, which is F, where it stops, and will remain so as long as the operator keeps down his finger.

The moment the type wheel stops, a little eccentric shaft draws the paper and the ink band against the type wheel, and the black letter is plainly seen when it is released, on the reverse side. Beginners write slowly, but the instruments are capable of printing faster than any man can write with his fingers. The writer can start his own instrument, and take a copy of the message he is sending; or, if a long circuit is used, a copy of any message can be given to all the Stations on the whole line at the same moment. The question has been asked frequently how two letters are made thus: M M, which is explained in this manner: The receiving operator starts his type wheel at the blank; the writer at the other end presses down the thirteenth key, which is M, and the type wheel has passed from the blank to the thirteenth type, which shows the letter M. The writer then raises up the key and allows his key shaft to make an entire revolution, stopping again at M, the thirteenth key: the type wheel at the same instant made an entire revolution, and will be found stopped at the thirteenth type as before—thus the two letters are formed, and so on throughout. Should a writer put his finger down on a wrong key, the mistake will be sure to appear against him at the other end, and before he is allowed to go on with another message, he will be called to account for his blunder and correct it.

When a message is complete, the operator instantly tears it off and hands it to an assistant, who carefully secures it in an envelope and conveys it, with all possible haste, to its destination.

The advantages of the House instrument may be recapitulated as follows:

1. Its abilility to preserve strict secrecy.

2. Its ability to transmit messages accurately.
3. Its ability to work without a local battery.
4. Its ability to print at a rate of two hundred letters per minute.
5. Its ability to record in unmistakeable characters so that all who run may read. It is now in successful use in all of the large cities; and in the State of New Jersey alone, there are upwards of twelve instruments in constant daily operation. The subscribers, therefore, think, that with such a powerful auxiliary, the Police department would be greatly assisted. The officers at the distant stations could receive their orders direct from the department, and even from the lips of the Mayor or his chief, without the recording of a syllable. As a preventive against riot, the importance of such a system of telegraph cannot be over-estimated. Its utility is apparent; its entire practicability well established. Every day's experience demonstrates the existence of this great want in the community.

With high regard, gentlemen, we remain,

J. H. PURDY,
W. J. PHILIPS.